Appendix C

FORESTHILL COMMUNITY PLAN DEIR

TRANSPORTATION AND CIRCULATION ELEMENT

EXISTING CONDITIONS

Prepared For:

QUAD KNOPF, INC.
One Sierragate Plaza, Suite 270C
Roseville, CA 95678

Prepared By:

kdANDERSON Transportation Engineers
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

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Foresthill Existing Conditions 4-8-03.rpt

FORESTHILL COMMUNITY PLAN
TRANSPORTATION AND CIRCULATION

The Transportation and Circulation Element of the Foresthill Community Plan addresses the development and maintenance of systems to adequately move persons, goods and services within the Foresthill Community. An inventory and evaluation of the operating characteristics of the existing circulation system is the initial task required to develop a comprehensive plan to guide transportation planning in the Community of Foresthill in the future. To understand existing travel characteristics and conditions, all major aspects of transportation in Foresthill have been inventoried and analyzed. The following sections discuss existing roadway functions, traffic volumes and traffic levels of service, as well as transit, rail service, and bicycle routes.

STREETS AND HIGHWAYS

Functional Classification

Foresthill is served by a system of county roads. The existing roadways in the Foresthill area are primarily comprised of 2-lane rural facilities reflecting the rural nature of the County. A description of some of the study area roadways is presented in the test that follows. KdANDERSON Transportation Engineers conducted new daily traffic counts during May 2000 and these new counts are presented in the descriptions of the roadways.

Foresthill Road. Foresthill Road is a two-lane rural roadway. This roadway provides the principle link between Auburn and Foresthill. This road also serves as the main route along the divide and continues easterly to Soda Springs. This facility is currently under construction and should be completed in the fall.

Foresthill Road currently carries 6,650 ADT east of the two-lane Foresthill Bridge. East of Happy Pines Drive, daily traffic volumes on Foresthill Road reach 4,876 ADT. West of Owl Hill Court, traffic volumes on Foresthill Road rise to 5,312 ADT.

East of the Foresthill community, daily traffic volumes on Foresthill Road drop significantly. West of Michigan Bluff Road, Foresthill Road currently carries 796 ADT with daily traffic volumes on Foresthill Rood dropping to 481 ADT east of Michigan Bluff Road.

Portions of Foresthill Road are currently under reconstruction. This 2.4-mile stretch of road is the last of three phases to be completed under the Federal Highway Administration contract. This project added passing lanes and widened many of the stretches of Foresthill Road between Auburn and Foresthill.

Yankee Jim's Road. Yankee Jim's Road is a narrow two facility. This facility connects the community of Foresthill to Canyon Way just south of Colfax. Currently, Yankee Jim's Road carries 186 ADT north of Race Track Street.

Spring Garden Road. Spring Garden Road is a two-lane roadway. This facility extends between Foresthill Road in the south and Yankee Jim's Road in the north. Currently, Spring Garden Road carries 624 ADT.

McKeon-Ponderosa Way. McKeon-Ponderosa Way is a two-lane roadway. This facility originates at Foresthill Road in the north. Extending to the south, McKeon-Ponderosa Way provides access to the west end of the Todd Valley area before winding further south toward the Middle Fork American River Canyon. Currently, McKeon-Ponderosa Way carries 1,495 ADT just south of Foresthill Road.

Happy Pines Drive. Happy Pines Drive is a two-lane roadway that provides access to Todd Valley. Originating at Foresthill Road, Happy Pines Drive extends to the south through Todd Valley before terminating at Green Leaf Lane just south of Todd Creek. Currently, Happy Pines Drive carries 1,293 ADT.

Todd Valley Road. Todd Valley Road is also a two-lane roadway. Within the Todd Valley area, Todd Valley Road originates at Foresthill Road. Extending to the south, Todd Valley Road loops to the east and then back to the north to terminate at Foresthill Road. Currently, Todd Valley Road carries 2,663 ADT on the eastern loop just south of Foresthill Road. The daily traffic on the west portion of the loop is substantially lower with daily traffic volumes of 319 ADT just south of Foresthill Road.

Mosquito Ridge Road. Mosquito Ridge Road is a two-lane roadway in the vicinity of Foresthill community. Originating at Foresthill Road, Mosquito Ridge Road winds to the northeast into the Tahoe National Forest. Currently, Mosquito Ridge Road carries 230 ADT just east of Foresthill Road.

Race Track Street. Rack Track Street is a two-lane roadway. Originating at Foresthill Road in the west, Rack Track Street parallels the north side of Foresthill Road before terminating in the east at Yankee Jim's Road. Currently, Race Track Street carries 901 ADT east of Foresthill Road.

Main Street. Main Street is a two-lane roadway that parallels the south side of Foresthill Road within the community of Foresthill. Extending from Foresthill Road in the west, Main Street provides accessed to the local businesses before connecting to Foresthill Road at the east end on town. Currently, Main Street carries 691 ADT just east of Foresthill Road.

Michigan Bluff Road. Michigan Bluff Road is a two-lane roadway that provides access from the community of Michigan Bluff north to Foresthill Road. Currently, Michigan Bluff Road carries 200 ADT south of Foresthill Road.

North Fork Ponderosa Way. North Fork Ponderosa Way is a two-lane facility that originates at Foresthill Road west of Todd Valley. Extending to the north, North Fork Ponderosa Way winds its way toward Weimar.

SCENIC CORRIDORS

Because of the special scenic qualities of certain areas in the Foresthill Area, those roads traversing these areas are recommended to be protected by special ordinances to enhance scenic view sheds.

Auburn-Foresthill Road. The entire portion of Auburn-Foresthill Road within general plan area is designated in the Placer County Scenic Highways System.

ROADWAY OPERATIONS

Level of Service Methodology

To assess the quality of existing traffic conditions in the Foresthill area, levels of service have been identified for arterial and collector facilities. "Level of Service" is a qualitative measure of traffic operating conditions whereby a letter grade, "A" through "F", corresponding to progressively worsening traffic conditions is assigned to an intersection or roadway segment. Current evaluation methodology is dependent upon the physical characteristics of the roadway segment or intersection and can additionally be categorized with respect to "urban" or "rural" conditions. Table 1 presents a description of the levels of service associated with two-lane rural highways.

The identified thresholds reflect information contained in the Placer County General Plan, as well as new information that reflects the character of Foresthill Road. Specifically, the effects of climbing lanes on average travel speed and resulting levels of service have been incorporated into these thresholds. Climbing lanes have the effect of raising level of service thresholds, although the overall capacity of the road remains constrained by the two lane sections.

TABLE 1
TWO-LANE RURAL HIGHWAY LEVEL OF SERVICE DESCRIPTIONS

LOS	DESCRIPTION
A	Free Flow: Almost no platoons of three or more cars. Driver delayed no more than 30 percent by slow moving vehicles.
B	Free Flow: Some platoons form. Driver delayed no more than 45 percent by slow moving vehicles.
C	Stable Flow: Noticeable increase in platoon formation and size. Drivers delayed more than 60 percent by slow moving vehicles.
D	Approaching Unstable Flow: Heavy platooning. Passing becomes difficult. Drivers delayed no more than 75 percent by slow moving vehicles.
E	Unstable Flow: Intense platooning. Passing is virtually impossible. Drivers delayed more than 75 percent by slow moving vehicles.
F	Forced Flow: Queues form behind breakdown points.

Source: Highway Capacity Manual, Transportation Research Board, 1985

The level of service characteristics of study area roadways will vary in relation to terrain and passing opportunities. In order to utilize appropriate evaluation criteria, the study roadway characteristics need to be determined. Toward this end, the roadways in the plan area were classified based on the individual roadway characteristics. Roadways within the rural area of the County were either classified as "mountainous" if they had steep grades or as "rolling". The "rolling" classification was further disaggregated based on the presence of passing/climbing lanes. The passing/climbing lane percentages were calculated based on field data. Roadways within as the Foresthill Community that comprise the local street system were classified as Arterials based on operations.

Table 2 presents the evaluation criteria that were utilized to determine level of service operations on each of these roadway. The daily capacity thresholds account for roadway operating characteristics such as directionality, percentage of trucks and recreational vehicles, and the percentage of passing lanes. As shown, the presence of passing lanes on a two-lane roadway can substantially increase the level of service thresholds as these passing lanes provide motorists the opportunity to travel around slower moving trucks and vehicles. While these passing lanes do provide an increasing benefit as the percentage of passing lanes increase, there is a limit. Roadways with higher passing percentages reach this "capacity limit" but still provide a good level of service. As shown under the two-lane rolling criteria with 71% passing lanes, the maximum daily traffic threshold on this section increases quickly to a point that reaches the ultimate capacity of the roadway at LOS "C" operations. Once the maximum capacity of the roadway is reached, the two-lane section becomes the constraint and no more vehicles can physically be delivered by the roadway system, even with an increase in the precentage of passing lanes. Therefore, while motorists experience unimpeded operations on the two-lane uphill sections, the overall roadway capacity is still constrained by the two-lane sections.

TABLE 2
EVALUATION CRITERIA FOR LEVEL OF SERVICE

	Maximum Daily Traffic Volume Level of Service				
Roadway Capacity Class	**A**	**B**	**C**	**D**	**E**
1. Rural 2-lane-Rolling w/o Passing Lane	1,060	3,400	6,400	9,780	18,540
2. Rural 2-lane-Rolling w/39% Climbing Lanes	1,060	4,520	10,710	14,190	18,540
3. Rural 2-lane-Rolling w/40% Climbing Lanes	1,060	4,600	10,880	14,430	18,540
3. Rural 2-lane Rolling w/43% Climbing Lanes	1,060	4,860	11,450	15,170	18,540
3. Rural 2-lane Rolling w/71% Climbing Lanes	1,060	9,940	18,540	18,540	18,540
4. Rural 2-lane-Rolling (PCGP)	1,600	4,200	7,200	11,400	21,000
5. Rural 2-lane-Mountainous (PCGP)	800	2,400	4,200	7,200	14,000
6. Arterial - Low Access Control (PCGP)	7,000	10,500	12,000	13,740	15,000

Source: Placer County GP, kdANDERSON Transportation Engineers, based upon Highway Capacity Manual, Transportation Research Board, 1985.

Table 3 presents the operating levels of service for each of these study roadways. As shown, currently all of the study roadways operate at level of service "C" or better.

TABLE 3
EXISTING DAILY ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE

ROADWAY	LOCATION	CRITERIA	DAILY TRAFFIC	LOS
Foresthill Road	Foresthill Bridge to Drivers Flat	Rural w/39% climbing	6,650	C
Foresthill Road	Drivers Flat to Spring Garden	Rural w/40% climbing	4,876	C
Foresthill Road	Todd Valley Rd (W) to Idle Wheels Mobile Home Park	Rural w/43% climbing	5,312	C
Foresthill Road	Idle Wheels Mobile Home Park to Michigan Bluff Rd	Arterial	796	A
Foresthill Road	E of Michigan Bluff Rd	Arterial	481	A
McKeon-Ponderosa	S of Foresthill Rd	Rural w/out passing	1,495	B
Spring Garden Rd	N of Foresthill Rd	Rural-Mountainous	624	A
Happy Pines Dr	S of Foresthill Rd	Rural w/out passing	1,293	B
Todd Valley Rd (W)	S of Foresthill Rd	Rural w/out passing	2,663	B
Todd Valley Rd (E)	S of Foresthill Rd	Rural w/out passing	319	A
Mosquito Ridge Rd	S of Foresthill Rd	Rural-Mountainous	230	A
Yankee Jim's Rd	N of Race Track St	Rural-Mountainous	186	A
Main St	S of Foresthill Rd	Arterial	691	A
Michigan Bluff Rd	S of Foresthill Rd	Rural w/out passing	200	A
Race Track St	N of Foresthill Rd	Arterial	901	A

TRANSIT SERVICE

The Consolidated Transportation Service Agency (CTSA) provides public mass transportation service in Foresthill. CTSA runs one bus daily between Foresthill and Auburn. The bus has five scheduled stops within the community of Foresthill. The first pick up is at Forest House at 7:45 a.m. with the last pick up at the Todd Valley Mobile Home Park at 8:05 a.m. before the bus travels down the hill to Auburn. In Auburn, the bus drops off all patrons at the Elders Transfer station. In the afternoon, the bus reverses the route and leaves Auburn at 3:30 p.m. and travels back to Foresthill. The bus ride costs $2.50.

BIKEWAY/PEDESTRIAN FACILITIES

Both the bikeway and pedestrian facilities within the Foresthill community are limited. Limited sidewalks exist in the downtown area and bicyclists are forced to share the roadways with motorist.

AIRPORT TRANSPORTATION

Foresthill is not served by a public/commercial airport. The closest airports to Foresthill are the Georgetown Airport and Auburn Municipal Airport.

RAIL SERVICE

Foresthill is not served by freight or passenger rail services.

TOURIST TRAFFIC

Based on conversations with Forest Service staff, about 900,000 tourists visit the Tahoe National Forest each year. Forest service staff also indicated that the two main routes into the national forest (i.e., Foresthill Road east of the Foresthill Community and Mosquito Ridge Road) were utilized about equally and that while the summer tourist crowd is still larger than the winter tourist crowd, the number of patrons traveling during the winter is increasing rapidly. Based on information that the forest service staff provided and accounting for such factors as carpooling and weekend vs. weekday traffic, it was estimated that tourist traffic would account for a total of about 570 weekday trips on Foresthill Road between Auburn and Foresthill.

In the future, this tourist traffic was to the Tahoe National Forest was assumed to double which equates to a 3.5% growth rate per year over the next 20 years. Doubling of the tourist traffic was done in consolation with County staff and was assumed to be reasonable.

ACCIDENT DATA

Placer County supplied that accident data for the last three years for the area. Specifically, the data that was available was for the most current period from 09-22-96 to 09-22-99. While additional data was available prior to these dates, accident data that is older than three years is typically not utilized. Table 4 summarizes the available accident data and lists those locations where the majority of accidents occurred on each roadway.

As shown in Table 4, the majority of accidents in the Foresthill area occurred on Foresthill Road. A total of 116 accidents were reported within this three-year period. Of these 116 accidents, 13 were in the vicinity of Driver's Flat Road (13), with that number dropping slightly at Upper Lake and North Fork Ponderosa Way (12) and at Todd Valley Road (11). Most occurred under dry roadway conditions (75) and while the drivers were unimpaired (84). A total of 52 accidents resulted in hit objects. A total of 3 people were killed and a total of 102 people were injured.

A total of 5 accidents were reported on Todd Valley Road. The majority occurred at Green Leaf Lane and resulted in one person being killed and 5 being injured. The roadway was dry (4) when most of the accidents occurred. A total of 4 drivers were impaired and 4 of the accidents resulted in

objects being hit.

On Spring Garden Road and Yankee Jim's Road a total of 3 accidents were reported, while Michigan Bluff Road had one accident within this three year time period.

TABLE 4
ACCIDENT DATA SUMMARY FOR FREQUENT ACCIDENT LOCATIONS

Roadway (Total Accidents)	Location	# of Accidents	# Injured	Occurrence	Roadway Surface Conditions		Was Driver Impaired?		Type of Collision	
Foresthill Road (116)	Drivers Flat	13	6 Injured	1	Dry	75	No	84	Hit Object	52
	Upper Lake	12	5 Injured	1	Wet	25	Yes	21	Broadside	14
	NF Ponderosa	12	4 Injured	2	Snowy/Icy	15	Unknown	9	Rear end	14
	Todd Valley	11	3 Injured	9			Sleepy or Fatigued	2	Overturn	11
	Lincoln Way	8	2 Injured	9					Sideswipe	11
	Lake Clemente	7	1 Injured	38					Other	8
	Old Auburn-Foresthill	5	1 Killed	3					Head on	6
Todd Valley Rd (5)	Green Leaf	3	4 Injured	1	Dry	4	Yes	4	Hit Object	4
	Foresthill	1	1 Injured	1	Wet	1	No	1	Other	1
	Mouganberry	1	1 killed	1						
Spring Garden (3)	Foresthill	2	1 Injured	2	Dry	3	No	3	Hit Object	2
	Owl Creek	1							Broadside	1
Yankee Jim's (3)	Canyon Way	1	1 Injured	2	Dry	2	Yes	2	Overturned	2
	Foresthill	1			Wet	1	No	1	Hit Object	1
	Spring Garden	1								
Michigan Bluff (1)	Foresthill	1	1 Injured	1	Dry	1	No	1	Hit Object	1

APPENDIX

FORESTHILL COMMUNITY PLAN DEIR

TRANSPORTATION AND CIRCULATION ELEMENT

FUTURE CONDITIONS

Prepared For:

QUAD KNOPF, INC.
One Sierragate Plaza, Suite 270C
Roseville, CA 95678

Prepared By:

kdANDERSON Transportation Engineers
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

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FORESTHILL COMMUNITY PLAN DEIR
TRANSPORTATION AND CIRCULATION ELEMENT

IMPACTS OF IMPLEMENTING THE PROPOSED PLAN

Future Circulation System

In addition to the existing roadway system, the Community Plan Circulation Element includes several new roadways. These roadways include three facilities that will complete the overall circulation system, provide parallel routes to Foresthill Road, and link the existing circulation system to existing/future development. Descriptions of each of these facilities are presented in the text that follows.

Power Line Road. Power Line Road, which is currently unimproved, is to be upgraded to a 32-foot rural secondary road along it current alignment. This facility will extend from Spring Garden Road in the west to ultimately connect with Foresthill Road in the east in the vicinity of the new high school site.

Yankee Jim's Road connection to Foresthill Road adjacent to the proposed new high school site. A new connection is proposed to link Yankee Jim's Road to Foresthill Road adjacent to the new high school site. The exact alignment of this new connection had not been determined.

Patent Road extension. Patent Road will be extended from its current terminus just east of Todd Valley Road to Mosquito Ridge Road in the east. While the exact alignment of this new facility has not been determined, it will likely be located just south of the planned development in the area thereby forming a new east-west connection that parallels Foresthill Road to the south. The connection with Mosquito Ridge Road will most likely be located very close to Foresthill Road based on existing topography. In addition, the existing stretch of Todd Valley Road is to be upgraded from Patent Road westward to its' existing upgraded section that lies just east of Green Ridge Drive.

Trip Generation

Estimating the number of vehicle trips associated by new development and assigning those trips to the area street system determined the amount of vehicular traffic that will be added to the Foresthill divide street system. Daily trip generation rates were derived from information presented in the Institute of Transportation Engineers publication Trip Generation (6^{th} Edition), the Placer County model, discussions with Placer County staff, and existing traffic generation for the area. Table A in the Appendix details the source and derivation of the trip generation rates utilized in this study.

Land use quantities were also obtained from the EIR consultant and Placer County staff. At build out of the Community Plan, a total of 4,333 dwelling units are anticipated to exist within the Foresthill Divide. As discussed by Placer County staff, this total dwelling unit count within the Foresthill Community includes a 20% reduction in "build out" housing based on anticipated development levels. An additional 165.5 acres on non-residential uses and a 400-student high

school comprise the new non-residential development portion of the Community Plan. Table 1 displays these future land uses.

TABLE 1
TRIP GENERATION ANALYSIS

Land Use	Quantity	Units	Daily Rate	Daily Trips Generated
Future Land Use				
Single Family Residential	2,208 du	du's	5.54 trips/du	12,232
Multi-Family Residential	172 du	du's	3.99 trips/du	686
Subtotal Residential	2,380 du			12,918
Retail	35.0 acres	acre	145 trips/acre	5,075
Pass-by (20%)				<1,015>
New Retail Trips				4,060
Business/Professional	60.0 acres	acre	20 trips/acre	1,200
Industrial	70.5 acres	acre	35 trips/acre	2,468
High School	400 students	student	1.79 trips/student	716
Subtotal Non-Residential				8,444
100% Match				8,444
"Net" Residential Trips				4,474
Total External Trips				**4,474**

As shown in Table 1, a total of 12,918 daily trips are anticipated to be generated from the residential portion of the new development within the Community Plan while a total of 8,444 "new" daily trips are anticipated from the non-residential portion of the new development within the Community Plan.

Based on the characteristics of the Foresthill Community, discussions with Placer County staff, and the future land uses, it was assumed that 100% of the "new" non-residential trips would match the "new" residential trips and within the Foresthill Community itself. Accounting for the internal matching, a total of 4,474 external trips result due to an imbalance of residential and non-residential uses.

Trip Distribution

The study area trip distribution was based on existing travel patterns and the distribution of the existing and future development in the area. New external trips were distributed onto the surrounding roadway system. For commercial uses, 20% of the trips were considered to be pass-by trips. These pass-by trips were attracted from traffic passing the site on the adjacent street system. Figure 1 displays the resulting daily traffic volumes on the study area roadways.

Figure 1 – Future Daily Traffic Projections

Impact Analysis

The resulting future projections on the study roadways are presented in Table 2. These future daily traffic projections were compared to the level of service criteria that was previously developed for the study area roadways. As shown in Table 2, all of the study are roadways are projected to operate at LOS "C" or better with the exception of Foresthill Road on the two study sections that lie between the Foresthill Bridge and Driver's Flat Road and between Driver's Flat Road and Spring Garden Road, which are projected to operate at LOS "D".

Projected daily roadway volumes were compared to the daily traffic warrant contained in the Traffic Manual to determine if traffic signals would eventually be needed at any of the intersections within the study area. Based on these daily volumes, three intersections are projected to meet warrants for signalization. These three intersections include:

1. Foresthill Road/McKeon-Ponderosa
2. Foresthill Road/Todd Valley (West)
3. Foresthill Road/Powerline Road

TABLE 2
FUTURE DAILY ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Location	Criteria	LOS C Threshold	Daily Traffic	LOS
Foresthill Road	Foresthill Bridge to Drivers Flat Rd	Rural w/39% climbing	10,710	11,400	D
Foresthill Road	Driver's Flat Rd to Spring Garden Rd	Rural w/40% climbing	10,880	11,700	D
Foresthill Road	Spring Garden to Todd Valley Rd (W)	Rural w/71% climbing	18,540	9,900	C
Foresthill Road	Todd Valley (W) to Idle Wheels Mobile Home Park	Rural w/43% climbing	11,450	10,200	C
Foresthill Road	Idle Wheels Mobile Home Park to Mosquito Ridge Rd	Arterial	12,000	10,800	C
Foresthill Road	Mosquito Ridge Rd to Yankee Jim's Rd	Arterial	12,000	9,100	B
Foresthill Road	Yankee Jim's Rd to Blackhawk Ln	Arterial	12,000	6,300	A
Foresthill Road	Blackhawk Ln to Ebberts Ranch Rd	Arterial	12,000	3,050	A
Foresthill Road	Ebberts Ranch Rd to Michigan Bluff Rd	Arterial	12,000	1,450	A
Foresthill Road	E. of Michigan Bluff Rd	Arterial	12,000	1,100	A
McKeon-Ponderosa	S. of Foresthill Rd	Rural w/out passing	6,400	1,700	B
Spring Garden Rd	N. of Foresthill Rd	Rural-Mountainous	4,200	1,050	B

TABLE 2
FUTURE DAILY ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Location	Criteria	LOS C Threshold	Daily Traffic	LOS
Happy Pines Dr	S. of Foresthill Rd	Rural w/out passing	6,400	1,450	B
Todd Valley Rd (W)	S. of Foresthill Rd	Rural w/out passing	6,400	3,100	B
Todd Valley Rd (E)	S. of Foresthill Rd	Rural w/out passing	6,400	500	A
Mosquito Ridge Rd	S. of Foresthill Rd	Rural-Mountainous	4,200	1,350	B
Yankee Jim's Rd	N. of Race Track St	Rural-Mountainous	4,200	1,550	B
Main St	S. of Foresthill Rd	Arterial	12,000	900	A
Michigan Bluff Rd	S. of Foresthill Rd	Rural w/out passing	6,400	400	A
Race Track St	N. of Foresthill Rd	Arterial	12,000	1,350	A
Todd Valley Connection	Between Todd Valley and Foresthill	Rural w/out passing	6,400	900	A
Spring Garden Connection (Powerline Rd)	E. of Spring Garden Rd	Rural-Mountainous	4,200	150	A
Spring Garden Connection (Powerline Rd)	N. of Foresthill Rd adjacent to high school	Arterial	12,000	1,850	A

Transit Service

When the Foresthill Community Plan area fully develops, the need for an additional bus or change in bus routes may exist. A short and/or long range transit study should be conducted to determine future needs.

Park and Ride Lot

Currently, the Foresthill does not have a designated park and ride lot. Installation of park and ride lots would provide motorist wishing to ride share and/or ride transit a central place to meet and leave their vehicles.

Bikeway/Pedestrians

With development of the Community Plan area, the need for both bikeway and pedestrian facilities will increase. A bikeway master plan should be developed. In addition, a trail master plan could also be developed. The Foresthill Community Plan policies relating to bicycle and pedestrian facilities should be implemented. These policies include:

5.1-5 Road improvements along Foresthill Road should include a Class I bikeway (off-street bike trail or path that is physically separated from the roadway) between major residential areas and downtown Foresthill, i.e., currently between the Spring Garden Road and Black Hawk Road. As new residential neighborhoods are developed, the Class I bikeway should be extended to reach them. New development projects that border Foresthill Road should

include the bikeway as part of their development plans. The bikeway may utilize existing road, water, power line or fire access easements where appropriate. The bikeway may be developed along the edge of the proposed improved Foresthill roadway in advance of or in conjunction with Federal, State and/or County-funded improvements.

5.1-6 A Class II bikeway (on-street bike lanes with signs, striped lane markings, and pavement legends) or Class I bikeway should be implemented along the rest of Foresthill Road between Auburn and the intersection of Sugar Pine Road.

5.1-7 Community organizations, businesses and individuals are encouraged to sponsor sections of the proposed Class I bikeway, working with Placer County, community representation (Foresthill Forum) and nearby property owners to plan and develop their section. Placer County should pursue all appropriate sources of funding for development of the bikeway.

5.3-3 Road easements in new developments shall include space for a five-foot multi-purpose roadside trail, or equivalent off-road trail network to enable children, equestrians, bicyclists, and pedestrians to safely circulation throughout the neighborhood.

5.3-4 Install traffic calming measures as appropriate within the Core Area to reduce speeds and create a bicycle-and pedestrian-friendly environment.

5.4-3 The Core Area shall be a "pedestrian friendly" zone. The County right-of-way along Foresthill Road, Main Street and Soap Street shall provide space for at least a five-foot path on properties adjacent to roadways for pedestrians. This path may be such that it connects to the path on adjacent properties to provide a continuous route.

5.4-4 The Western States Train through historic downtown is important as a historical asset and continues to provide circulation for equestrians, bicycles and pedestrians. This trail shall be preserved and incorporated into plans for enhancing circulation through Foresthill.

5.4-5 A bike and pedestrian path that connects Memorial Park to the Elementary School via Harrison and Church Streets and to the site for the proposed high school via Race Track Street should be constructed to provide safe circulation between these popular destinations.

Impact Summary

Adoption of the Community Plan results in increased traffic throughout the Community Plan area. Development of the Community Plan as proposed results in impacts because the circulation system does not have enough available capacity to accommodate this level of development.

With implementation of the Foresthill Community Plan, the resulting level of service on Foresthill Road is "D" on the sections that lies between the Foresthill Bridge and Driver's Flat Road and between Driver's Flat Road and Spring Garden Road. As the Community Plan Policy 5.1-1 requires LOS "C" operations be maintained on Foresthill Road between Auburn and the Idle Wheels Mobile Home Park, this is considered a significant impact. Level of service "D" on a Class I highway results in motorists spending between 65% to 80% of their time following

other vehicles which is an increase from the LOS "C" threshold of 50% to 65%. This additional time spent following other motorists results in the average traveling speeds decreasing from 45 to 50 miles per hour at LOS "C" to 40 to 45 miles per hour for LOS "D" operations.

Reduction of the overall amount of development within the Community Plan area will be required unless the County is willing to accept LOS "D" operations on additional sections of Foresthill Road. Reduction of future housing will reduce the amount of external traffic leaving the area on Foresthill Road, which in turn will decrease future daily traffic projections on this facility. Based on daily capacity thresholds, reduction of about 800 daily trips on Foresthill Road is needed in order to meet the County's existing LOS "C" policy. As a general note, each house is projected to generate 5.54 daily trips, of which about 95% of those trips that do not match within the Foresthill Community, are anticipated to be traveling between Auburn and Foresthill. Therefore, if about 160 less homes were to be proposed to develop, a total of about 850 less daily trips would result on Foresthill Road between Auburn and Foresthill. This reduction in residential development would yield LOS "C" operations on the two sections of Foresthill Road that are projected to operate at LOS "D" under the current development proposal.

The County has inquired to the feasibility of adding additional passing lanes on Foresthill Road in order to increase the capacity and provide LOS "C" operations. Increasing the passing lane percentage to 39% from 43% would eliminate the roadway LOS "D" operations on the 5.6 mile Foresthill Road between the Foresthill Bridge and Drivers Flat Road. In order to achieve 43% passing lanes on this uphill section of Foresthill Road, an additional 0.22 miles of passing lanes (or a 4% increase) are required. On the section of Foresthill Road between Drivers Flat Road and Spring Garden Road, a total of 45% passing lanes would be needed on this uphill section in order to achieve LOS "C" operations. This 5% increase in passing lanes would equate to the need for an additional 0.24 miles of passing lane on this 4.84-mile segment.

Based on field observations, most of the uphill sections already have passing lanes. Those sections that do not have passing lanes are either: 1) located within rugged terrain that would require expensive cut and fill in order to add additional pavement width, or 2) do not have sufficient shoulder width over long stretches of roadway which could easily be converted into additional passing lanes. Therefore, based on field observations, adding another 4% to 5% passing lanes on Foresthill Road between the Foresthill Bridge and Driver's Flat Road and between Driver's Flat Road to Spring Garden Road may not be economically feasible.

While not needed from a capacity standpoint, installation of a center two-way left turn on Foresthill Road from the Todd Valley area through the downtown area is recommended as it will improve traffic flow during peak periods. This center two way left turn will improve safety by providing left turning motorists a refuge area to wait for the next available gap out of the through traffic flow on Foresthill Road, thus allowing through traffic to continue its progression. Installation of this improvement may result in less rear end accidents that could be avoided by providing left turning motorists a refuge area out of the thru travel lane.

Install signals on Foresthill Road at its' intersections with Spring Garden Road, Todd Valley (W), and the Spring Garden Connection (Powerline Road). The Community Plan Policy 5.6-1

states that if traffic signals become necessary on Foresthill Road, utilize control mechanisms that minimize the delay of through traffic, especially during non-commute hours.

Roundabouts are an alternative to signalization and often minimize traffic delays resulting from signalization. County staff indicated that a detailed roundabout analysis was not currently needed, and that not all intersections are good candidates for signalization.

APPENDIX

TRIP GENERATION TABLE FOR FORESTHILL		
Land Use Quantity – New	**Rate**	**Source for Trip Generation Rates**
High School	1.79 trips/acre	Utilized ITE Trip Generation, 6th Edition rates directly
Single Family	5.54 trips/du	Trip generation rates were developed in consultation with Placer County staff. Utilized Placer County model daily rate of 9.0 trips/du. A factor of 80% (as per Placer Model) was applied to model's daily rate to account for rural conditions. Then rate was factored by an additional 77% calibrate to existing conditions in Foresthill.
Multi Family	3.99 trips/du	Trip generation rates were developed in consultation with Placer County staff. Utilized Placer County model daily rate of 6.5 trips/du. A factor of 80% (as per Placer Model) was applied to model's daily rate to account for rural conditions. Then rate was factored by an additional 77% calibrate to existing conditions in Foresthill.
Retail	145 trips/acre	Trip generation rates were developed in consultation with Placer County staff. Utilized ITE trip generation specialty rate on a per square foot basis. A lower FAR (.10) was utilized to account for topography and sewage disposal. Then the rate was factored by an additional 80% to account for rural characteristics of Foresthill. This rate was converted to a per acre basis and rounded up to nearest 5 trips per acre.
BP	20 trips/acre	Trip generation rates were developed in consultation with Placer County staff. Utilized ITE Business Park rate on a per acre basis to create a per acre rate for General office by comparing peak hour trip generation rates. A lower FAR (0.5) was utilized to account for topography and sewage disposal. Then the rate was factored by an additional 80% to account for rural characteristics of Foresthill. This rate was rounded to nearest 5 trips per acre.
Industrial	35 trips/acre	Trip generation rates were developed in consultation with Placer County staff. Utilized ITE trip generation rate. Then the rate was factored by 80% to account for the rural characteristics of Foresthill. This rate was rounded to the nearest 5 trips per acre.